Lesson 2

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Introduction

This report addresses the exercises done in Lesson 2 of Three.js.

# Exercise 1

We were asked to change the first example from the first class to visualize the cube in wireframe and use the Orthographic Camera.

Uma imagem com relógio

Descrição gerada automaticamenteResult with perspective camera:

Uma imagem com captura de ecrã, design

Descrição gerada automaticamenteResult with Orthographic Camera:

var aspectRatio = window.innerWidth / window.innerHeight;

var top = 3 / aspectRatio;

var bottom = -3 / aspectRatio;

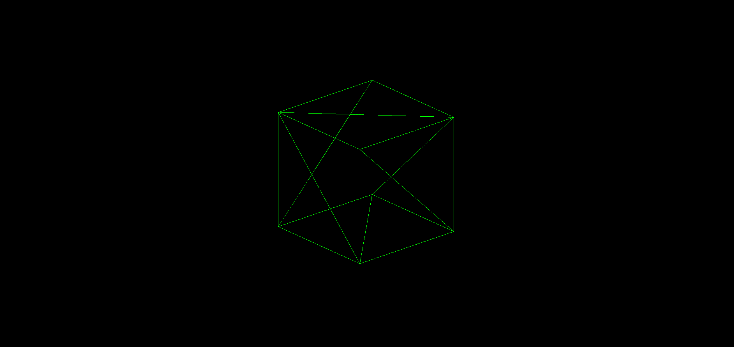
var camera = new THREE.OrthographicCamera( -3, 3, top, bottom, 1, 1000 );

The result is what we expected.

# Exercise 2

Add OrbitControls to the previous example.

const controls = new OrbitControls(camera, renderer.domElement);

controls.update();

We also tried other controls as shown in the code.

# Exercise 3

Add lights to the scene.

Uma imagem com captura de ecrã, escuridão, preto, luz

Descrição gerada automaticamente

const light = new THREE.DirectionalLight(0xffffff, 1.0);

light.position.set(0, 5, 0);

scene.add(light);

//AmbientLight

const alight = new THREE.AmbientLight(0xffffff);

scene.add(alight);

# Exercise 4

widthSegments — Number of horizontal segments

Uma imagem com texto, captura de ecrã, Tipo de letra

Descrição gerada automaticamenteheightSegments — Number of vertical segments

Modify the flatShading option of one of the materials by toggling between true and false and observe the result – Instead of using Phong shading will use flatshading.

Uma imagem com Objeto astronómico, esfera, Evento celestial, círculo

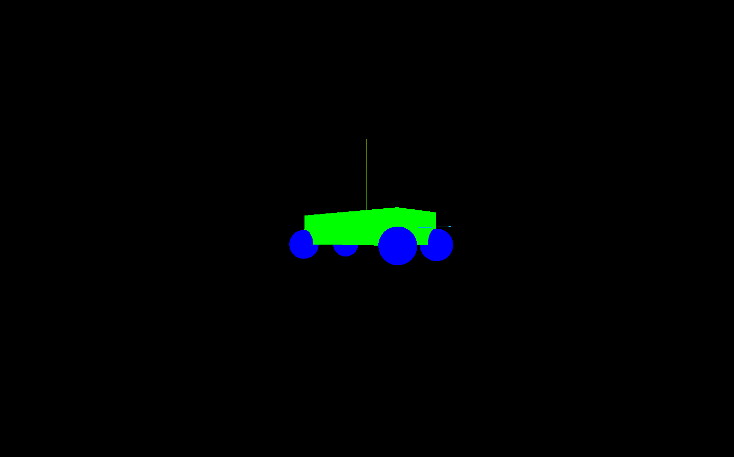
Descrição gerada automaticamente

# Exercise 5

Uma imagem com Objeto astronómico, Evento celestial, escuridão, lua

Descrição gerada automaticamenteAdd spheres with a slightly larger size around original spheres and use material provided by the professor.

**Exercise 6**

Create a new scene consisting of four spheres (radius 0.5) centered on its lower. Add multiple meshes into a single THREE.Object3D().

View the transformation matrices of the parallelepiped and of one of the spheres on the console, accessing the matrix (matrix) with the transformations of the objects.

**Exercise 7**

Uma imagem com captura de ecrã, Gráficos

Descrição gerada automaticamenteReplace the spheres with cylinders with radius 0.5 and height 0.2 and move the “car”.

object.position.z += 0.01;

    if (object.position.z >= 6) {

        object.position.z = -6;

    }